```
ISIS-II PL/M-86 V2.0 COMPILATION OF MODULE GLOBAL
OBJECT MODULE PLACED IN GLOBAL.OBJ
COMPILER INVOKED BY:  :F0: GLOBAL.PLM DEBUG OPTIMIZE(2) DATE(FEBRUARY 2, 1982) XREF


                $title ('GLOBAL VARIABLES')
  1             global:
                do;

                /*

                  modified  3/28/81  R. Silberstein
                  modified  4/16/81  R. Silberstein
                  modified  4/20/81  R. Silberstein
                  modified  7/24/81  R. Silberstein
                  modified  9/2/81   R. Silberstein

                */

                /*
                        This module defines all the global variables
                        of the assmembler.
                */

                $include (:f1:macro.lit)
              =  $nolist
                $include (:f1:struc.lit)
              =  $nolist
                $INCLUDE (:F1:SUBR2.EXT)
              =  $nolist

 40   1       dcl

                        /* dummy structure forces contiguous storage */

                glob            structure (
                pass            byte,   /* current pass no, 1,2,3 */

                        /* address counters */

                cip             addr,   /* current instruction pointer */
                csegtype        byte,   /* current segment type, code,data,
                                                   stack or extra data */
                csegvalue       addr,   /* current segment value */
                csegspec        byte,   /* true if segment value specified */

                escip           addr,   /* current ES instruction pointer */
                cscip           addr,   /* current CS instruction pointer */
                sscip           addr,   /* current SS instruction pointer */
                dscip           addr,   /* current DS instruction pointer */
                curcseg         addr,   /* current code segment value */
                curdseg         addr,   /* current data segment value */
                cursseg         addr,   /* current stack segment value */
                cureseg         addr,   /* current extra segment value */
                cspec           byte,   /* true if code segment value given */
                dspec           byte,   /* true if data segment value given */
```

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```
        sspec           byte,   /* true if stack segment value given */
        espec           byte,   /* true if extra segment value given */


              /* print output parameters */

        print$on        byte,   /* on/off flag */
        printswitchoff  byte,   /* set/reset by NOLIST/LIST */
        IFLIST          BYTE,   /* SET/RESET BY IFLIST/NOIFLIST */
        maxcol          byte);   /* pagewidth */

41  1   dcl

        sourcename (12) byte public,   /* source file name */
        sourcestop      byte,          /* used to contain zero */
        savesource (12) byte public,   /* source file during INLUDE file */
        printdevice     byte public,   /* print file device */
        SYMBOLDEVICE    BYTE PUBLIC,   /* SYMBOL FILE DEVICE */
        title (30)      byte public,   /* user specified program title */
        stoptitle       byte,          /* used to contain zero */
        pagesize        byte public,   /* page size */
        simform         byte public,   /* true if formfeed is to be simulated*/
        sourcebuf (80)  byte public,    /* copy of source input to be printed*/
        sourceptr       byte public,    /* source buffer pointer */
        prefix (240)    byte public,    /* prefix to source line */
        prefixptr       byte public,    /* pointer to prefix buffer */
        ABSADDR (4)     BYTE PUBLIC;    /* ABSOLUTE ADDRESS FIELD */


              /* references to glob structure */

42  1   dcl
        pass            byte public at(.glob.pass),
        cip             addr public at(.glob.cip),
        csegtype        byte public at(.glob.csegtype),
        csegvalue       addr public at(.glob.csegvalue),
        csegspec        byte public at(.glob.csegspec),
        escip           addr public at(.glob.escip),
        cscip           addr public at(.glob.cscip),
        sscip           addr public at(.glob.sscip),
        dscip           addr public at(.glob.dscip),
        curcseg         addr public at(.glob.curcseg),
        curdseg         addr public at(.glob.curdseg),
        cursseg         addr public at(.glob.cursseg),
        cureseg         addr public at(.glob.cureseg),
        cspec           byte public at(.glob.cspec),
        dspec           byte public at(.glob.dspec),
        sspec           byte public at(.glob.sspec),
        espec           byte public at(.glob.espec),
        print$on        byte public at(.glob.print$on),
        printswitchoff  byte public at(.glob.printswitchoff),
        IFLIST          BYTE PUBLIC AT (.GLOB.IFLIST),
        maxcol          byte public at(.glob.maxcol);

              /* io error stpublic atus */

43  1   dcl
```

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```
        errors          addr public,        /* counts no of errors */

                /* scanner variables: */

        token   struc(                  /* actual token scannes */
                type    byte,               /* token type, legal values :
                                                reg       - register
                                                pseudo    - pseudo code
                                                string    - text string
                                                spec      - special character
                                                number    - number
                                                operator  - aritmetic operator
                                                ident     - identifier  */

                descr   byte,               /* token description, legal values :
                                                nil       - no specification
                                                byte      - 8 bit type
                                                word      - 16 bit type
                                                dword     - 32 bit type  */

                value   addr) public,       /* token value  */
        nextch          byte public,    /* next input character (lookahead) */
        acclen          byte public,    /* accumulator length */
        accum(80)       byte public,    /* actual token scanned */
        accumsave(30)   byte public,    /* used to save accumulator */
        acclensave      byte public,
        eofset          byte public,    /* true if end-of-file found */

             /* Mischellaneous variables: */

        intel$hex$on    byte public,    /* true if INTEL hex ouput format */
        noerror         byte public,    /* errorflag in codemacro decoding */
        errorprinted    byte public,    /* true if an error is printed */
        firstmacroptr   address public, /* pointer at first codemacro */
        macroptr        address public, /* current pointer within macros */
        fullsymbtab     byte public,    /* true if symboltable is full */
        include$on      byte public,    /* true if input from INCLUDE file */
        IFLEVEL         BYTE PUBLIC,    /* IF-ENDIF NESTING LEVEL */
        currentsymbol   symbolstruc     /* current scanned symbol */
                        public,
        symbtabadr      address public, /* pointer at symbol in table */
        nooper          byte    public, /* no of instruction operands */
        operands(4)     operandstruc    /* instruction operands,max 4 */
                                public,
        codemacroptr    address public, /* pointer to found codemacro */
        help(5)         byte    public, /* scratch area for ascii numbers */
        helpstop        byte,
        i               byte    public, /* scratch variable */
        default$drive   byte    public, /* default disk drive */
        include$default byte    public, /* default disk for include files */
        codemacro$flag  byte    public; /* true if building a codemacro */

44  1   globalinit: procedure public; /* initiate some global varaiables */
45  2     stoptitle,sourcestop,helpstop=0;
46  2     pagesize=66;
47  2     fullsymbtab,intel$hex$on=false;
48  2     CALL FILL (0, SIZE (TITLE), ,TITLE);
```

```
 49   2        codemacro$flag=false;
 50   2      end globalinit;


 51   1      end$module global;
```

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CROSS-REFERENCE LISTING

DEFN	ADDR	SIZE	NAME, ATTRIBUTES, AND REFERENCES		
41	01A8H	4	ABSADDR.	BYTE ARRAY(4) PUBLIC	
43	01B0H	1	ACCLEN	BYTE PUBLIC	
43	0251H	1	ACCLENSAVE	BYTE PUBLIC	
43	01B1H	80	ACCUM.	BYTE ARRAY(80) PUBLIC	
43	0201H	80	ACCUMSAVE.	BYTE ARRAY(80) PUBLIC	
2			ADDR	LITERALLY	5 11 29 32 35 38 40 42 43
19	0000H		ALPHANUMERIC . . .	PROCEDURE BYTE EXTERNAL(5) STACK=0000H	
22	0000H		ASCIICHAR.	PROCEDURE BYTE EXTERNAL(6) STACK=0000H	
43	0003H	1	BASEINDEX.	BYTE MEMBER(CURRENTSYMBOL)	
43	0008H	1	BASEINDEX.	BYTE MEMBER(OPERANDS)	
3			BASEREGBIT	LITERALLY	
3			BASEREGCOUNT . . .	LITERALLY	
3			BREGBIT.	LITERALLY	
3			BREGCOUNT.	LITERALLY	
16	0000H	1	CH	BYTE PARAMETER	17
13	0000H	1	CH	BYTE PARAMETER	14
25	0000H	1	CH	BYTE PARAMETER	26
10	0000H	1	CH	BYTE PARAMETER	11
19	0000H	1	CH	BYTE PARAMETER	20
22	0000H	1	CH	BYTE PARAMETER	23
40	0001H	2	CIP.	WORD MEMBER(GLOB)	42
42	000FH	2	CIP.	WORD PUBLIC AT	
43	0270H	1	CODEMACROFLAG. . .	BYTE PUBLIC	49
3			CODEMACROHEAD. . .	LITERALLY	
43	000CH	2	CODEMACROPTR . . .	WORD PUBLIC	
2			CR	LITERALLY	
42	0017H	2	CSCIP.	WORD PUBLIC AT	
40	0009H	2	CSCIP.	WORD MEMBER(GLOB)	42
42	0014H	1	CSEGSPEC	BYTE PUBLIC AT	
40	0006H	1	CSEGSPEC	BYTE MEMBER(GLOB)	42
42	0011H	1	CSEGTYPE	BYTE PUBLIC AT	
40	0003H	1	CSEGTYPE	BYTE MEMBER(GLOB)	42
42	0012H	2	CSEGVALUE.	WORD PUBLIC AT	
40	0004H	2	CSEGVALUE.	WORD MEMBER(GLOB)	42
42	0025H	1	CSPEC.	BYTE PUBLIC AT	
40	0017H	1	CSPEC.	BYTE MEMBER(GLOB)	42
42	001DH	2	CURCSEG.	WORD PUBLIC AT	
40	000FH	2	CURCSEG.	WORD MEMBER(GLOB)	42
42	001FH	2	CURDSEG.	WORD PUBLIC AT	
40	0011H	2	CURDSEG.	WORD MEMBER(GLOB)	42
42	0023H	2	CURESEG.	WORD PUBLIC AT	
40	0015H	2	CURESEG.	WORD MEMBER(GLOB)	42
43	0259H	9	CURRENTSYMBOL. . .	STRUCTURE PUBLIC	
40	0013H	2	CURSSEG.	WORD MEMBER(GLOB)	42
42	0021H	2	CURSSEG.	WORD PUBLIC AT	
28	0000H	2	D.	WORD PARAMETER	29
37	0000H	2	D.	WORD PARAMETER	38
34	0000H	2	D.	WORD PARAMETER	35
31	0000H	2	D.	WORD PARAMETER	32

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```
 2                  DCL. . . . . .   LITERALLY
37  0000H          DECOUT . . . . .  PROCEDURE EXTERNAL(11) STACK=0000H
43  028EH     1    DEFAULTDRIVE . .  BYTE PUBLIC
43  0001H     1    DESCR. . . . . .  BYTE MEMBER(TOKEN)
13  0000H          DIGIT. . . . . .  PROCEDURE BYTE EXTERNAL(3) STACK=0000H
40  000DH     2    DSCIP. . . . . .  WORD MEMBER(GLOB)          42
42  0013H     2    DSCIP. . . . . .  WORD PUBLIC AT
40  0018H     1    DSPEC. . . . . .  BYTE MEMBER(GLOB)          42
42  0023H     1    DSPEC. . . . . .  BYTE PUBLIC AT
 2                  ELSEDO . . . . .  LITERALLY
 2                  ENDCASE. . . . .  LITERALLY
 2                  ENDDO. . . . . .  LITERALLY
 2                  ENDFOREVER . . .  LITERALLY
 2                  ENDIF. . . . . .  LITERALLY
 2                  ENDMODULE. . . .  LITERALLY
 2                  ENDOFFILE. . . .  LITERALLY
 2                  ENDPROC. . . . .  LITERALLY
 2                  ENDWHILE . . . .  LITERALLY
43  0252H     1    EOFSET . . . . .  BYTE PUBLIC
28  0000H          EQUAL. . . . . .  PROCEDURE BYTE EXTERNAL(8) STACK=0000H
43  0255H     1    ERRORPRINTED . .  BYTE PUBLIC
43  0000H     2    ERRORS . . . . .  WORD PUBLIC
42  0015H     2    ESCIP. . . . . .  WORD PUBLIC AT
40  0007H     2    ESCIP. . . . . .  WORD MEMBER(GLOB)          42
42  0023H     1    ESPEC. . . . . .  BYTE PUBLIC AT
40  001AH     1    ESPEC. . . . . .  BYTE MEMBER(GLOB)          42
 2                  FALSE. . . . . .  LITERALLY       47   49
 7  0000H     2    FCBADR . . . . .  WORD PARAMETER          8
 7  0000H          FILEABORT. . . .  PROCEDURE EXTERNAL(1) STACK=0000H
 3                  FILEISTRUCTURE .  LITERALLY
 3                  FILEOSTRUCTURE .  LITERALLY
10  0000H          FILL . . . . . .  PROCEDURE EXTERNAL(2) STACK=0000H        48
43  0006H     2    FIRSTMACROPTR. .  WORD PUBLIC
 2                  FOREVER. . . . .  LITERALLY
 2                  FORMFEED . . . .  LITERALLY
43  0256H     1    FULLSYMBTAB. . .  BYTE PUBLIC          47
40  000EH    31    GLOB . . . . . .  STRUCTURE       42
 1  0000H          GLOBAL . . . . .  PROCEDURE STACK=0000H
44  0000H    44    GLOBALINIT . . .  PROCEDURE PUBLIC STACK=000AH
43  0287H     5    HELP . . . . . .  BYTE ARRAY(5) PUBLIC
43  028CH     1    HELPSTOP . . . .  BYTE       45
31  0000H          HEX1OUT. . . . .  PROCEDURE EXTERNAL(9) STACK=0000H
34  0000H          HEX2OUT. . . . .  PROCEDURE EXTERNAL(10) STACK=0000H
43  028DH     1    I. . . . . .      BYTE PUBLIC
43  0258H     1    IFLEVEL. . . . .  BYTE PUBLIC
42  002DH     1    IFLIST . . . . .  BYTE PUBLIC AT
40  001DH     1    IFLIST . . . . .  BYTE MEMBER(GLOB)          42
43  028FH     1    INCLUDEDEFAULT .  BYTE PUBLIC
43  0257H     1    INCLUDEON. . . .  BYTE PUBLIC
 3                  INDEXREGBIT. . .  LITERALLY
 3                  INDEXREGCOUNT. .  LITERALLY
 2                  INIT . . . . . .  LITERALLY
43  0253H     1    INTELHEXON . . .  BYTE PUBLIC          47
 3                  IREGBIT. . . . .  LITERALLY
 3                  IREGCOUNT. . . .  LITERALLY
43  0000H     2    LENGTH . . . . .  WORD MEMBER(OPERANDS)
43  0000H     2    LENGTH . . . . .  WORD MEMBER(CURRENTSYMBOL)
```

```
 16  0000H        LETTER . . . . . .  PROCEDURE BYTE EXTERNAL(4) STACK=0000H
  2               LF . . . . . .  LITERALLY
  2               LIT. . . . . .  LITERALLY        2    3
 43  0008H    2   MACROPTR . . . . .  WORD PUBLIC
 42  002CH    1   MAXCOL . . . . . .  BYTE PUBLIC AT
 40  001EH    1   MAXCOL . . . . . .  BYTE MEMBER(GLOB)          42
 10  0000H    1   N. . . . . .  BYTE PARAMETER        11
 37  0000H    2   N. . . . . .  WORD PARAMETER        38
 34  0000H    2   N. . . . . .  WORD PARAMETER        35
 31  0000H    1   N. . . . . .  BYTE PARAMETER        32
 28  0000H    1   N. . . . . .  BYTE PARAMETER        29
 43  01AFH    1   NEXTCH . . . . . .  BYTE PUBLIC
 43  0254H    1   NOERROR. . . . . .  BYTE PUBLIC
 43  0262H    1   NOOPER . . . . . .  BYTE PUBLIC
  3               NOOVERCOUNT. . . .  LITERALLY
  3               NOOVERRIDEBIT. . .  LITERALLY
 43  0006H    2   OFFSET . . . . . .  WORD MEMBER(CURRENTSYMBOL)
 43  0006H    2   OFFSET . . . . . .  WORD MEMBER(OPERANDS)
 43  0263H   36   OPERANDS . . . . .  STRUCTURE ARRAY(4) PUBLIC
  3               OPERANDSTRUC . . .  LITERALLY        43
  4  0000H        OUTTEXT. . . . . .  PROCEDURE EXTERNAL(0) STACK=0000H
 41  0067H    1   PAGESIZE . . . . .  BYTE PUBLIC          46
 42  0003H    1   PASS . . . . . .  BYTE PUBLIC AT
 40  0000H    1   PASS . . . . . .  BYTE MEMBER(GLOB)          42
 41  00BAH  240   PREFIX . . . . . .  BYTE ARRAY(240) PUBLIC
 41  01AAH    1   PREFIXPTR. . . . .  BYTE PUBLIC
 41  0046H    1   PRINTDEVICE. . . .  BYTE PUBLIC
 42  0029H    1   PRINTON. . . . . .  BYTE PUBLIC AT
 40  001BH    1   PRINTON. . . . . .  BYTE MEMBER(GLOB)          42
 42  002AH    1   PRINTSWITCHOFF . .  BYTE PUBLIC AT
 40  001CH    1   PRINTSWITCHOFF . .  BYTE MEMBER(GLOB)          42
  2               PROC . . . . . .  LITERALLY        19   22   31   34   37
 10  0000H    2   PT . . . . . .  WORD PARAMETER        11
  2               REENT. . . . . .  LITERALLY
 28  0000H    2   S. . . . . .  WORD PARAMETER        29
 41  003AH   12   SAVESOURCE . . . .  BYTE ARRAY(12) PUBLIC
  3               SEGMBIT. . . . . .  LITERALLY
  3               SEGMCOUNT. . . . .  LITERALLY
 43  0004H    2   SEGMENT. . . . . .  WORD MEMBER(OPERANDS)
 43  0004H    2   SEGMENT. . . . . .  WORD MEMBER(CURRENTSYMBOL)
  3               SEGTYPEBIT . . . .  LITERALLY
  3               SEGTYPECOUNT . . .  LITERALLY
 43  0003H    1   SFLAG. . . . . .  BYTE MEMBER(OPERANDS)
 43  0003H    1   SFLAG. . . . . .  BYTE MEMBER(CURRENTSYMBOL)
 41  0068H    1   SIMFORM. . . . . .  BYTE PUBLIC
                  SIZE . . . . . .  BUILTIN          48
 41  0069H   80   SOURCEBUF. . . . .  BYTE ARRAY(80) PUBLIC
 41  002DH   12   SOURCENAME . . . .  BYTE ARRAY(12) PUBLIC
 41  00B9H    1   SOURCEPTR. . . . .  BYTE PUBLIC
 41  0039H    1   SOURCESTOP . . . .  BYTE        45
  2               SPACE. . . . . .  LITERALLY
 42  0019H    2   SSCIP. . . . . .  WORD PUBLIC AT
 40  0008H    2   SSCIP. . . . . .  WORD MEMBER(GLOB)          42
 42  0027H    1   SSPEC. . . . . .  BYTE PUBLIC AT
 40  0019H    1   SSPEC. . . . . .  BYTE MEMBER(GLOB)          42
 41  0066H    1   STOPTITLE. . . . .  BYTE        45
  2               STRUC. . . . . .  LITERALLY        43
```

```
 43  0002H     1  STYPE. . . . . .   BYTE MEMBER(OPERANDS)
 43  0002H     1  STYPE. . . . . .   BYTE MEMBER(CURRENTSYMBOL)
 41  004AH     1  SYMBOLDEVICE . . .  BYTE PUBLIC
  3                SYMBOLHEAD . . . .  LITERALLY
  3                SYMBOLSTRUC. . . .  LITERALLY       43
 43  000AH     2  SYMBTABADR . . . .  WORD PUBLIC
  4  0000H     2  T. . . . . .        WORD PARAMETER       5
  2                TAB. . . . . .      LITERALLY
  4  0000H     2  TEXTADR. . . . . .  WORD PARAMETER       3
  2                THENDO . . . . . .  LITERALLY
 41  0043H    30  TITLE. . . . . .    BYTE ARRAY(30) PUBLIC          43
 43  0002H     4  TOKEN. . . . . .    STRUCTURE PUBLIC
  2                TRUE . . . . . .    LITERALLY
 43  0000H     1  TYPE . . . . . .    BYTE MEMBER(TOKEN)
  7                TYPEBIT. . . . . .  LITERALLY
  3                TYPECOUNT. . . . .  LITERALLY
 25  0000H        UPPER. . . . . .    PROCEDURE BYTE EXTERNAL(7) STACK=0000H
 43  0002H     2  VALUE. . . . . .    WORD MEMBER(TOKEN)
```

MODULE INFORMATION:

```
  CODE AREA SIZE     = 002CH     44D
  CONSTANT AREA SIZE = 0000H      0D
  VARIABLE AREA SIZE = 0291H    657D
  MAXIMUM STACK SIZE = 000AH     10D
  339 LINES READ
  0 PROGRAM ERROR(S)

END OF PL/M-86 COMPILATION
```

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